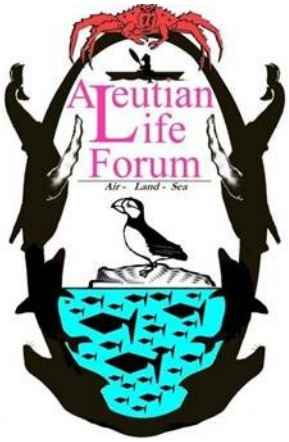

Overview of M/V SELENDANG AYU Response

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Unalaska, Alaska

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Setting the stage for the oil spill.

The M/V SELENDANG AYU, a 738 foot Malaysia flag bulk freighter loaded with 66,000 metric tons of soy beans, was on a voyage on the Great Circle Route from Seattle, Washington bound for a port in China. The Singapore based company, IMC Transworld owns the vessel. The vessel also had approximately 478,000 gallons of oil including, Intermediate Fuel Oil 380 (IFO 380), diesel oil and miscellaneous lubricating oils. The vessel had been experiencing mechanical problems apparently during the transit. At approximately 1200 hours on December 6th 2004, after going through Unimak Pass and traveling North of the Aleutians for a time, the decision was presumably made by the Chief Engineer and Master to shut down the engine to effect repairs to a cracked cylinder liner. The weather was violent with winds over 60 miles per hour. The vessel drifted down wind rolling in the trough. At 0400 on December 7th the Coast Guard Marine Safety Detachment in Unalaska was notified by the Harbor Master for the Port of Dutch Harbor that the vessel was adrift and requesting assistance in arranging for a potential vessel assist to take them in tow. Vessels were dispatched to assist. The Coast Guard Cutter ALEX HALEY was underway on a Bering Sea patrol and was diverted to the stricken vessel's position. In the Port of Dutch Harbor, three vessels answered the call and got underway; the towing vessel SIDNEY FOSS, the towing vessel JAMES DUNLAP and the motor vessel REDEEMER. The crew of the SIDNEY FOSS did an absolutely incredible job of passing a tow line to the M/V SELENDANG AYU in those high winds and seas at around 2030 hours on December 7th. Due to the high winds, violent sea state and safety considerations for fear of tripping the tug, the SIDNEY FOSS was unable to bring the bow of the M/V SELENDANG AYU around into the wind and stop the drift, but the drift was slowed until the tow line parted at about 0700 on the morning of December 8th. The Coast Guard Cutter ALEX HALEY made an attempt to pass a tow line, getting a messenger line across, but the messenger parted and a near collision occurred between the two vessels. The M/V SELENDANG AYU continued to drift in deep water until 1525 on December 8th when the vessel drifted into shallow waters off Unalaska Island and the vessel dropped one anchor to stop the drift. The anchor held for a short time and then parted. The second anchor was then used and it held short a short time as well. The M/V SELENDANG AYU grounding off-shore just north of Spray Cape on the Western shore of Unalaska Island 54 hours after the main engine was shut down to make repairs. At 1715 on December 8th the Coast Guard began to evacuate the crew off of the vessel by helicopter. There were two helicopters used during this evolution, one from the Air Station at Kodiak and the other from the Cutter ALEX HALEY. During the evacuation of the last of the crew the Coast Guard helicopter with 10 people on board crashed. The second helicopter was able to rescue 4 people from the icy waters, three Coast Guard air crew members and a member of the vessel. Two personnel remained on the bow of the M/V SELENDANG AYU, a Coast Guard rescue swimmer who had been lowered to the vessel to assist with the vessel's crew evacuation and the Master of the M/V SELENDANG AYU. In the next hour while they awaited the return of the helicopter to evacuate them from the grounded vessel the ship broke into two pieces. They were later hoisted off the bow of the vessel and flown to

Unalaska. Tragically 6 crew members from the M/V SELENDANG AYU are missing and are presumed to have died in the helicopter crash.

The Response begins.

The response for this incident started while the vessel was drifting, attempting repairs. Notifications were made to the various agencies and initial concerns for the drifting vessel were obtained. One of the first issues raised was the possibility of the vessel grounding on Bogoslof Island, an important bird and Stellar Seal habitat. The island is also rat free. The vessel's drift was observed by means of a tracking system developed by the Marine Exchange of Alaska, whereby the ship's Inmarsat communications system was used to send data via satellite to the Marine Exchange tracking system. In this way the Coast Guard District Office Command Center could see the location and the track the vessel was taking without having to ask the vessel's crew. This allowed the vessel's crew to attend to the repairs without constantly updating location information to authorities. The island was missed as the vessel drifted close by, and the M/V SELENDANG AYU subsequently grounded off the western shore of Unalaska Island. It is suspected that the initial grounding of the vessel created an oil spill as the helicopter crew that was rescued from the water had oil on them that looked to be heavier than the helicopter fuel. The vessel had three centerline tanks that held IFO 380 in the bottom of the vessel. When the vessel broke into two pieces, the number 2 centerline tank that held 40,132 gallons was completely breached and the oil was discharged at that time. An unknown amount of oil from the numbers 1 and 3 centerline tanks was possibly escaping due to the grounding damage. The number 1 centerline tank held 176,473 gallons and the number 3 centerline tank held 104,448 gallons. There were additional tanks back aft on the port and starboard sides of the vessel, located higher up the sides above the bottom that also held IFO 380 and diesel oil. The engine room had additional tanks for lubricating oils and day tanks with IFO 380 and diesel oil.

On December 7th, while the vessel was still drifting, a representative for Gallagher Marine representing the responsible party (RP), the State of Alaska On-scene Coordinator (SOSC) from the Department of Environmental Conservation and the Federal On-scene Coordinator (FOSC) from the Coast Guard Marine Safety Office Anchorage met to discuss the initial response strategies in the event the vessel grounded. It was decided to maintain a command post at the offices of Pacific Rim in Anchorage, form a Joint Information Center in Anchorage and we would begin to forward deploy people to Unalaska. The FOSC arrived in Unalaska on the 8th at 1730 hours, finding a command post already established in the Grand Aleutian Hotel. The calls began with the Coast Guard District Commander in Juneau at 1813 hours, gathering the most up to date information on the vessel's position and condition as it had just run aground and the remaining crew members were being evacuated. Our first incident action plan (IAP) was completed on the 8th, with the first IAP signed by the Unified Command of the RP, SOSC, and FOSC on the 9th. The objectives established in that early IAP were as follows:

1. Protect the health and safety of the public and responders.

2. Protect sensitive areas to minimize impact to the environment, cultural, subsistence, and economic resources and property.
3. Assess the condition of the vessel and prepare alternative courses of action for review.
4. Evaluate the feasibility of source control and on-water recovery operations, develop plans, if needed.
5. Establish Shoreline Cleanup Assessment Techniques (SCAT) program to assess shoreline impacts and recommend clean-up measures.
6. Provide wildlife recovery and rehabilitation as needed.
7. Mobilize resources needed for the response.
8. Develop an incident command organization suited to expected needs and contingencies.
9. Provide thorough liaison with local agencies and communities to keep them informed and address their needs and concerns.
10. Provide accurate information to news media and the public.
11. Provide proper documentation of the response.
12. Develop contingency plans and preparations for catastrophic discharge.
13. Develop waste management plan.

These objectives served as the foundation for the unified response and were amended as the situation warranted.

The response can be characterized by three main phases of activity based on the seasons. The Initial phase beginning with the onset of the response and ran until we shifted to the Winter Operations phase. This was then followed up with the Spring/Summer Operations phase that is currently underway.

Initial Response Phase (December to February)

The initial phase of the response began with the assessment of the situation, providing protective booming to important streams and other locations, planning on how to recover the remaining oil on the two vessel sections, and gearing up for open water recovery of floating oil. Contingency plans and environmental sensitivity maps were referenced to determine what may be at risk from the spilled oil. This information was used to develop a first blush listing of where protective booming should be attempted. In one of our first meetings with local tribal members and native corporation representatives, the unified command members asked for verification on our listing of sites for protective booming. The listing was validated, but the additional input on prioritization of the sites was especially important. The actual booming of the sites was not so easily accomplished, as some of the sites were in very exposed areas, but through a combination of vessels and helicopters deploying the protective booming to the sites the task was accomplished. Later the unified command had personnel assess the effectiveness of the booming that had been done and some sites were eliminated, but others were adjusted to be more efficient. The commencement of oil removal from the heavily impacted beaches was an activity that initially was considered not too practical due to what we thought would be severe winter weather that would prevent such activities from being safely accomplished.

It was difficult not to compare what happened during the M/V KIROSHIMA spill when the weather became so severe that beach cleanup was delayed and planned for the milder spring weather window when workers could more safely access the beaches. We changed direction though, as the winter storms did not come rolling into the area one after the other. The Unified Command directed beach cleanup of the more heavily impacted areas that had the most potential for remobilizing the oil if left alone and took advantage of the milder winter weather being experienced. Through local input the Unified Command was informed that this type of milder weather was not so unusual. Once again, local input was valuable to the Unified Command's direction of the response. The shoreline impacts were assessed through a series of over flights and beach surveys with the use of helicopters, placing multi-agency teams of personnel trained to document the distribution and extent of oiling for the purpose of identifying gross oil removal priorities. At that time we had divided the northern Unalaska Island shoreline into 460 segments to assist in identification and geographic referencing for response activities. A SCAT plan would be developed to mobilize a systematic field survey in the spring to update the data base and provide recommendations for planning shoreline treatment and operations. During the initial phase 1,760 meters of heavily impacted beaches had gross oil removal completed before shifting into the winter phase. An important mission that was prevalent throughout this response was the awareness of the cultural sensitivity of the area. Historic property specialists were provided by the FOSC and the RP. They worked with the State Historic Preservation Officer and the local tribal members to ensure that any activities conducted during this cleanup did not disturb known historic sites and they were to document new sites that may be discovered. The key document used for this activity was the Programmatic Agreement on the Protection of Historic Properties during Emergency Response developed for implementation of the National Historic Preservation Act.

There were also concerns with commercial fisheries scheduled shortly after the vessel grounding. There was a crab opener scheduled for Skan and Makushin Bays that was cancelled, but the Opilio crab fishery commenced as scheduled. Concerns with this fishery were for the returning vessels that must circulate sea water through their tanks while awaiting their turn at the processor's dock to unload their catch. Tar balls and large tar patties were floating around the island into Unalaska Bay. Extra efforts were provided through enhanced seafood inspections by the State of Alaska and a Unified Command backed water quality testing program that included towing nets through the water and crab pot snares looking for tar balls, and then whole water sampling was also taken for water quality analysis. Advisories were published for the fishing fleet to help minimize the potential for tar ball contact. The entire crab fishery was completed without oil impact to any of the catch or the processors production plants.

The bow and stern sections were initially being assessed for the potential of re-floating, but the analysis revealed that the stern section would not float. The bow section had a chance early on, but progressive flooding was continuing on the bow section and it was only a matter of a few days before the bow would be sunk completely. The amount of oil remaining on the vessel was unknown and a survey of the bow and stern sections was made in an attempt to quantify the oil amounts that remained, and to develop proposals

for lightering that oil from the vessel sections. A lightering plan was developed that utilized a heavy lift helicopter to offload cubes filled with oil that would be pumped from the vessel's tanks. The bow section sunk prior to the commencement of these activities, but the stern section remained accessible. A total of 144, 931 gallons of oil were removed from the stern section through the lightering efforts. A remote operating vehicle (ROV) was used to view the sunken bow section and the underwater portion of the stern section to identify the tank integrity of the number 1-centerline tank on the bow section and the number 3-centerline tank on the stern section. Those efforts found substantial damage to the bow and stern sections, including no tank integrity to both of those tanks leading the unified command to conclude that the oil loss from the vessel is 321,052 gallons based on the oil in the number 1, 2 and 3 centerline tanks.

The Department of the Interior Fish and Wildlife Service (F&W) responded to this spill providing the Unified Command with recommendations for the capture, stabilization and rehabilitation of impacted wildlife. The FOSC entered into a Pollution Removal Funding Authorization (PRFA) with the Fish and Wildlife Service on the 8th of December for expenses that were related to the emergency response to wildlife and sensitive habitats. International Bird Rescue and Research Center (IBRRC) personnel were mobilized through the F&W to assist in the capture, stablization and rehabilitation of oiled birds. There was some capture of live oiled birds, but there was by far more carcass collection conducted. Also observed was that the carcasses were being scavenged, which lead to some concern on the secondary oiling of wildlife. There were some impacts to Otters as well, with some mortality noted. Also, several harbor seals were noted to have been oiled.

The Unified Command developed a winter operations plan and shifted to that plan when worker safety was impacted for vessel operations with icing conditions, shoreline operations impacted due to snow and ice and weather delays unacceptably hampered operations.

Winter Operations Plan

There was a great deal of activity in the winter to accomplish to prepare for shoreline cleanup in the spring/summer season. The objectives for this phase included:

- Safety of all response personal.
- Minimize environmental damage.
- Maintain information on the situation status and provide to stakeholders.
- Continue to track oil movement and identify extent of shoreline oiling.
- Commence planning for spring time SCAT surveys.
- Conduct appropriate HAZWOPER training in Unalaska through the winter to maximize local hiring for spring/summer shoreline cleanup.
- Monitor for and respond to, new significant wildlife impacts.

During the winter phase vessels were identified to support the upcoming cleanup activities and through coordination with the Coast Guard the vessels were either

inspected or examined to ensure suitability for the task. Communications to the fleet of vessels and shoreline workers was also something that was necessary to plan and resource, as voice and data communications needed to be established to the other side of the island. Surveillance flights of the wreck and beaches were conducted and the SCAT plan to determine the shoreline cleanup priorities and end points was developed.

Spring/Summer Operations

Mobilization for this phase began in early April, with the shoreline assessment training for the teams that would be working together to survey and document the extent of oiling and provide an accurate geographic or spatial picture of the shoreline oiling conditions. The surveys would provide appropriate information for decisions regarding shoreline treatment, cleanup operations and tactics, and end points for cleanup. The SCAT surveys began with two helicopter based teams and two boat based teams. The total number of segments to be surveyed was 806 and included areas on Unalaska Island, Umnak Island, and Akutan Island. To date all of the segments have been assessed. As of this writing 123 segments were recommended for treatment of some kind. The shoreline cleanup was to be done from a vessel based support system. Shoreline cleanup personnel would be berthed on vessels and access the beaches during favorable weather and tides to their assigned segments. Two teams of personnel in Skan and Makushan Bays where assembled. The progress to date is 84 of the 123 segments are ready for final landowner inspection and 57 segments are ready for final Unified Command and landowner approval. The waste stream was developed to have the waste brought from the beaches and placed onto a barge that, when full, would then proceed to Washington State for offloading and further transport to a secured landfill in Oregon. Cleanup of the segments continues as this forum meets with 94 of 123 segments completed by the crews. There is hope that most of the cleanup can be completed this season, but there is a chance that follow-up will be necessary next year. The wreck removal issue is still being worked, but plans are being developed to remove the superstructure of the stern section. The remaining portion of the wreck is yet to be determined.

Lessons Learned

The response is not yet complete and this listing is by no means all inclusive, but here are several lessons learned to share from our early assessment of our actions to this oil spill.

Public Outreach. At one of the first Unified Command meetings designed for members of the response team, we found the room jammed full of people from the island who were very interested in the response. We quickly determined that this was very disruptive to our meeting and we needed another avenue for public information. Also, security to the room needed to be stepped up immediately. We established a nightly meeting schedule at the city hall to update the citizens of Unalaska on the response. We started out nightly and adjusted the meeting schedule as the response entered into the winter and spring phases. One of the ground rules for the meeting was that the press was allowed to attend and record the event, but the FOSC established that no questions would be entertained

from the press during these town meetings. It was for the citizens of Unalaska. Regular press conferences were held for the press to gather information.

Consultations with tribal and native corporation representatives. The Unified Command set a daily meeting schedule (Sunday excluded) to provide a forum in which to gain information on the response operations and to get their feedback and concerns. We worked with four native corporations and one tribe. Tribes have the government to government status with the FOSC. This arrangement proved to be very valuable to the Unified Command. The group grew in numbers at times as we started to include other landowners/trustees, such as the Alaska Maritime National Wildlife Refuge.

Documentation of the response. The Unified Command early in the response established that the RP would compile the documents generated during the response and provide copies of all of the documents to the RP and the State of Alaska, with the originals going to the Coast Guard. The Unified Command also generated decision memos for the file outlining the reasons for some of the more important or contentious issues.

Unified Command. The UC consisted of the FOSC, SOSC and the RP. All of the members presented respective areas of responsibility and expertise and worked together in public forums, press conferences and in creating the decision memos that helped to document their actions.

Position of the Salvage/Lightering section within the ICS structure. The Salvage/Lightering section was provided with direct access to the UC, and cooperated with the operations section in air operations and the logistics section in meeting some of their equipment shipping issues. The salvors had flexibility to make changes without bureaucracy and provided their information in the form of daily reports and UC attendance at their section meetings at the beginning of the day. Salvors may prefer to be independent, but having them integrated within the ICS structure with direct access to the UC worked, yet gave them the freedom to complete their mission.

Liaison Officer. The FOSC for this response was fortunate to have on his staff an officer who had a great deal of local knowledge and knew just about all of the business and government people in the community. The Liaison Officer function rotated between several different Coast Guard personnel after the course was set for good communications.

ADEC Web site use. Once again the State of Alaska turned on the switch and established the UC web site for this response. The posting of information on the site was a great way for the public and the press to see documents such as the Incident Action Plans, message traffic, and plans that were developed by the UC. Pictures were also posted and links to other sites were added. The web site was a great tool and deflected some of the "feed the beast" labor that is always present in a response.

Author Information: Captain Morris was the Federal On-scene Coordinator for the initial response and continued in the capacity until his retirement from the Coast Guard on the 15th of June 2005.